

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* VOLKER DIEHL, ULRICH JAGER,  
JURGEN SCHRODER, and JOACHIM THIEL

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Appeal 2007-0125  
Application 10/447,227  
Technology Center 1700

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Decided: May 24, 2007

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Before EDWARD C. KIMLIN, CHUNG K. PAK, and  
PETER F. KRATZ, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the Examiner's final rejection of claims 1 through 20, all of the claims pending the above-identified application. We have jurisdiction pursuant to 35 U.S.C. §§ 6 and 134.

*I. APPEALED SUBJECT MATTER*

The subject matter on appeal is directed to a process for cleaning an apparatus in which:

(meth)acrylic acid-containing organic solvents have been treated and/or generated and contain fouling and/or polymer formed in an undesired manner and residues of the organic solvent (Specification 1, ll. 5-10).

Details of the cleaning process are recited in representative claim 1 which is reproduced below:

1. A process for cleaning apparatus in which (meth)acrylic acid-containing organic solvents have either been treated, generated, or both treated and generated, wherein said apparatus contains residues of the organic solvent and at least one of polymers and fouling products formed by a method of making (meth)acrylic acid, which process comprises subjecting the apparatus contents to a stream distillation in the apparatus thereby forming a vapor phase, condensing the vapor phase removed from the apparatus and separating the resulting condensate into an aqueous and an organic phase, the organic phase comprising residues of the organic solvent.

According to page 7 of the Specification:

A steam distillation of the contents of the apparatus refers to any process in which, on the one hand, steam is generated in the apparatus to be cleaned and/or steam is fed to the apparatus to be cleaned and, on the other hand, vapor phase is withdrawn from the apparatus to be cleaned.

*II. PRIOR ART*

As evidence of unpatentability of the claimed subject matter, the Examiner relies upon the following references:

Ueoka	US 4,956,493	Sep. 11, 1990
Aichinger	WO 99/20595	Apr. 29, 1999 <sup>1</sup>
Mitsumoto	US 2001/0016668 A1	Aug. 23, 2001
Schroder	DE 102 11 273 A1	Mar. 6, 2003 <sup>2</sup>
Yada	US 2004/0260122 A1	Dec. 23, 2004

*III. REJECTION*

The Examiner has rejected the claims on appeal as follows:

- 1) Claims 1 through 5 and 7 through 11 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Aichinger as explained by Ueoka;
- 2) Claim 15 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Aichinger (as explained by Ueoka) and Yada;
- 3) Claims 15 through 18 and 20 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Aichinger (as explained by Ueoka) and Schroeder; and

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<sup>1</sup> The Examiner has relied on US 6,568,406 B2 (Aichinger) published on May 27, 2003, as corresponding to WO 99/20595 relied on in the statements of the rejections set forth in the Answer (Answer 3). Our reference to Aichinger in this decision is to US 6,568,406 B2.

<sup>2</sup> The Examiner has relied on US 2005/0115590 A1(Schroeder) published on June 2, 2005 as corresponding to DE 102 11 273 A1 relied on in the statement of the rejection set forth at page 7 of the Answer. Any reference to Schroder in this decision is to the corresponding published U.S. patent application, namely US 2005/0115590 A1.

4) Claims 16 through 19 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Aichinger (as explained by Ueoka) and Mitsumoto.

#### *IV. PRINCIPLES OF LAW*

Under 35 U.S.C. § 102(b), “every element of the claimed invention must be identically shown in a single reference....” *In re Bond*, 910 F.2d 831, 832, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990). However, “extrinsic evidence may be considered when it is used to explain, but not to expand, the meaning of a reference.” *In re Baxter Travenol Labs.*, 952 F.2d 388, 390, 21 USPQ2d 1281, 1284 (Fed. Cir. 1991).

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary consideration (e.g., the problem solved). *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18, 148 USPQ2d 459, 467 (1966). “[A]nalysis [of whether the subject matter of a claim is obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007) quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006); *see also DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361, 80 USPQ2d 1641, 1645 (Fed. Cir. 2006)(“The motivation need not be found in

the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”). The analysis supporting obviousness, however, should be made explicit and should “identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements” in the manner claimed. *KSR*, 127 S. Ct. at 1732, . 82 USPQ2d at 1389.

*V. FACTS, ANALYSIS, AND CONCLUSIONS OF LAW*

The Examiner’s §§ 102(b) and 103 rejections are premised upon Achinger, as explained by Ueoka, describing either expressly or inherently the steam distillation, condensation and separation steps recited in claim 1 (Answer 3-11). The dispositive question is, therefore, whether Achinger, as explained by Ueoka, describes either expressly or inherently the claimed steam distillation, condensation and separation steps. On this record, we answer this question in the negative.

As correctly stated by the Appellants (Br. 5):

Aichinger et al's method involves emptying the plant parts, flushing the plant parts with aqueous alkali metal hydroxide solution, removing the solution from the plant parts, and optionally washing the plant parts with water and drying the plant parts (column 2, lines 23-29). Aichinger et al further discloses that after removal of the alkali metal hydroxide solution, alcohols formed during the cleaning are separated therefrom, such as by phase separation, distillation or stripping, which can involve the use of steam (column 3, line 28ff). This is the only disclosure of steam in Aichinger et al. (footnote omitted.)

In other words, Aichinger employs aqueous alkali metal hydroxide solution, not steam, to clean the parts of a (meth)acrylic ester (not acid) producing apparatus and recovers no vapor phase *from* such apparatus for the purposes of condensing and separating components in the vapor phase (Aichinger, col. 3, ll. 1-55). Thus, even assuming that Ueoka explains that the (meth)acrylic ester producing apparatus taught by Aichinger inherently contains the same residues, organic solvent and polymer impurities as those in a (meth)acrylic acid producing apparatus, we determine that the Examiner has not demonstrated that Aichinger describes either inherently or expressly each and every element of the invention recited in claim 1. Nor do we find any identification of a reason on the part of the Examiner that would have prompted a person of ordinary skill in the relevant field to employ the steam distillation, condensation and separation steps recited in claim 1.

Accordingly, we are constrained to agree with the Appellants that on this record, the Examiner has not established a *prima facie* case of unpatentability under § § 102(b) or 103(a).

Appeal 2007-0125  
Application 10/447,227

*VI. ORDER*

The decision of the Examiner is reversed.

REVERSED

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